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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/936,160 | 09/10/2001 | Akiyoshi Kabe | | 9208 |

7590 07/15/2004
Sughrue Mion Zinn
Macpeak & Seas
2100 Pennsylvania Avenue NW
Washington, DC 20037-3202

EXAMINER

RUTTEN, JAMES D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2122

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/936,160 | Applicant(s) KABE, AKIYOSHI | |
| | Examiner J. Derek Rutten | Art Unit 2122 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-10 have been examined.

Specification

2. The abstract of the disclosure is objected to because it is not in narrative form, consists of more than one paragraph, and contains legal terminology typically found in claim language.

Correction is required. See MPEP § 608.01(b).

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method for programming a multiple device control system using object sharing.

Claim Objections

4. Claims 1-10 are objected to because of the following informalities: The claims appear to be a translation from the original Japanese and as such contain numerous language and grammar errors. For example, claim 1 contains the repeated phrase "each of devices" which should probably be --each of a plurality of devices--. Appropriate correction is required.

5. The claims in the preliminary amendment are objected to because the lines are crowded too closely together, making reading and entry of amendments difficult. Substitute claims with lines one and one-half or double spaced on good quality paper are required. See 37 CFR 1.52(b).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3, 4, and 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 3 recites the limitation "said object management" in line 3 of the preliminary amendment. There is insufficient antecedent basis for this limitation in the claim. For the purpose of further examination, this limitation will not be considered.

9. Claim 4 contains idiosyncratic grammar and is difficult to interpret. For the purpose of further examination, the claim will be interpreted as --further comprising a system configuration tool containing a collection of objects that represent basic types that are frequently used in the devices of the control system, wherein the system configuration tool is used to select said object representations of basic types for use in the control system--.

10. Claim 6 contains idiosyncratic language and grammar and is difficult to interpret. For the purpose of further examination, this claim will be interpreted as --when variable name and attribute data corresponding to the object are stored, other program generation tools that are registered as using the object are notified --.

11. Claims 7-9 are rejected for being dependent upon rejected base claim 6.

12. Claim 7 contains the phrase "at a referenced part", but it is not clear to what this refers.

At a referenced part of what? This limitation has been interpreted in reference to page 24 paragraph 2 of the originally filed specification to refer to overlapping addresses in the allocation of object memory. Further clarification is required.

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12. Claim 8 contains idiosyncratic language and grammar and is difficult to interpret. For the purpose of further examination, this claim will be interpreted as --when an object is changed using a particular program generation tool, notification is sent to other program generation tools--.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by "Using the SNAP Development Environment" by Template Software (hereinafter referred to as "SNAP").

As per claim 1, SNAP discloses:

A programming device (page 2-2 paragraph 1: "The SNAP Development Environment") comprising:

a group of program generation tools to generate programs for each of devices forming of a control system (page 3-11: "The tools that appear in the tool box are listed in Table 3-7."; also Figure 3-3 on page 3-14 shows a control system); and

a data sharing unit (page 3-14: "Object Model Editor workspace" shown in Figure 3-3) adapted to share a variable name (page 3-15 Figure 3-4

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“BINDING REF”) *and attribute data definitions* (page 3-15: “The symbol that represents a class can contain several graphic indicators.” Shown in Figure 3-4) *corresponding to an object of each of devices for a program generation, wherein the objects are shared by said program generation tools* (Objects are shared in the workspace and can be acted upon by the tools in the tool box.).

As per claim 2, the above rejection of claim 1 is incorporated. SNAP further discloses:

programming in one of the program generation tools is as a trigger to store a setting of the object to the data sharing unit together with an indication of the program generation tools which is a reference object (page 3-11 Table 3-7 describes the “New Relation Attribute” tool which is inherently stored as an indication of a reference object in the workspace and also stores relation attributes in the workspace.), *and*

the sharing of said object with other program generation tools notifies said object to the program generation tools which is the reference object (Since objects are created and modified with the Object Model Editor tools, they are inherently notified of the existence of the tools.).

As per claim 3, the above rejection of claim 1 is incorporated. SNAP further discloses: *an object data definition unit adapted to perform data definition and data changing of the object sharing in the data sharing unit* (page 3-11 describes the Object Model Editor tools which provide for object data definition).

As per claim 4, the above rejection of claim 1 is incorporated. SNAP further discloses: *a system configuration tool containing a collection of objects that represent basic types that are frequently used in the devices of the control system, wherein the system configuration tool is used to select said object representations of basic types for use in the control system* (page 3-20: "Displaying predefined classes").

As per claim 5, all limitations have been addressed in the above rejections of claims 1 and 3.

As per claim 10, SNAP discloses:

A programming method (page 2-2) *for generating programs for devices constructing a control system, the method comprising the steps of:*

according to a pre-designed virtual object (page 3-11 as disclosed in claim 1),

defining an object name and attribute data corresponding to an object of each of devices (page 3-11 Table 3-7 as cited in claim 1),

specifying a device using the object (pages 2-5 and 2-6: "Creating an application in a UNIX or VMS environment", and "Creating an application in an MS Windows environment". These pages describe the specification of 3 separate devices.), *and*

registering in a data sharing unit (page 3-14 as cited in claim 1);

notifying the object to a program generation tool for the specified devices using the object (This is inherent as described in claim 2); and
according to the objects registered in the data sharing unit, performing programming of the device by the notified program generation tools (page 3-11 Table 3-7, e.g. "New Inheritance").

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over SNAP as applied to claim 5 above, and further in view of U.S. Patent 5,907,705 to Carter (hereinafter referred to as "Carter").

As per claim 6, the above rejection of claim 5 is incorporated. SNAP further discloses *variable name and attribute data corresponding to the object are stored* (page 3-14 Figure 3-3). SNAP does not expressly disclose *other program generation tools that are registered as using the object are notified* ().

However, in an analogous environment, Carter teaches notifying users of an object when the object is changed (column 4 lines 55-59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Carter's teaching

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of notification in SNAP's workspace. One of ordinary skill would have been motivated to alert any potentially impacted user or tool of changes in an object.

As per claim 8, all limitations have been addressed in the above rejection of claim 6.

As per claim 9, the above rejection of claim 6 is incorporated. SNAP further discloses: *wherein the object is notified to a storage area which is confirmed by the program generation tools when they are started* (page 2-4: "Creating an application". This passage describes the process of searching a storage area for an application. This inherently suggests notification of a storage area, otherwise there would be nowhere to search.).

17. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of SNAP and Carter as applied to claim 6 above, and further in view of "Linkers & Loaders" by Levine (hereinafter referred to as "Levine").

As per claim 7, the above rejection of claim 6 is incorporated. SNAP does not expressly disclose *a detection unit adapted to detect any overlap with objects at a referenced part when a program is generated by other program generation tools.*

However, in an analogous environment, Levine teaches that programs can be created from multiple subprograms, but that the subprograms have to be loaded at non-

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overlapping addresses (page 5 bullet 2: "Relocation"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Levine's teaching of non-overlapping subprograms in SNAP's program generation device. One of ordinary skill would have been motivated to protect the integrity of each object by separating their address space.

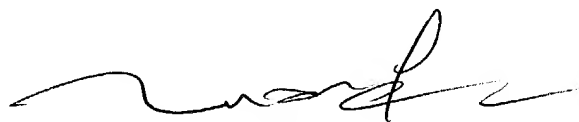
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (703) 605-5233. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr



TUAN DAM
SUPERVISORY PATENT EXAMINER